

REMARKS


Claim 1 is pending in the application. Claim 1 has been canceled and new claims 111-158 have been added. New claims 111-158 are supported by the original specification and claims, including the originally filed claims and the examples. No new matter is presented by the amendments. Accordingly, applicants respectfully request entry thereof and examination of claims 111-158.

In accordance with 37 C.F.R. §1.121, a marked up version of the pending claims are attached hereto.

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Date

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Respectfully submitted,

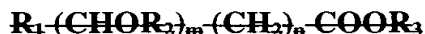


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ATTACHMENT - MARKED UP CLAIMS

~~1. (Deleted) A composition comprising (A) an acceptable vehicle or base and (B) a therapeutically effective amount of at least one compound selected from the group consisting of oligosaccharide aldonic acids and related compounds, and isomeric or nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, and straight or branched chain, or cyclic forms thereof,~~

~~wherein said oligosaccharide aldonic acid has the formula:~~



~~wherein,~~

~~R₁ and R₃ are independently H or an alkyl, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form, having from 1 to 25 carbon atoms;~~

~~m is 2, 3, 4, 5, 6, 7, 8, 9, 10 or 11;~~

~~n is 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9;~~

~~R₂ is independently selected from the group consisting of H and any carbohydrate having 1 to 9 monomers, wherein at least one R₂ is a carbohydrate;~~

~~H attached to carbon atom is optionally substituted by I, F, Cl, Br, NH₂, NHCOCH₃, SH, or an alkyl, alkoxyl, aralkyl or aryl group of saturated or unsaturated, straight or branched chain or cyclic form, having 1 to 9 carbon atoms;~~

~~R₁, R₂, OR₂ or H optionally carry or are optionally substituted with CHO, COOH, sulfate, phosphate, nitrate, or a lower alkoxyl having 1 to 5 carbon atoms; and~~

~~H of the OH group is optionally substituted by an acyl group having from 2 to 25 carbon atoms,~~

~~and wherein said oligosaccharide aldonic acid is not lactobionic acid.~~

111. (New) A composition comprising (A) an acceptable vehicle or base and (B) a therapeutically effective amount of at least one compound selected from the group consisting of isolactobionic acid, maltobionic acid, isomaltobionic acid, cellobionic acid, gentiobionic acid, laminarabionic acid, melibionic acid, nigerobionic acid, rutinobionic acid, sophorobionic acid, and kojibionic acid as isomeric, nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, and straight or branched chain, or cyclic forms thereof.

112. (New) The composition of claim 111, further comprising a cosmetic, pharmaceutical, or other topical agent.

113. (New) The composition of claim 112, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of agents that improve or eradicate age spots, keratoses and wrinkles; local analgesics and anesthetics; antiacne agents; antibacterials; antiyeast agents; antifungal agents; antiviral agents; antidandruff agents; antidermatitis agents; antihistamine agents; antipruritic agents; antiemetics; antimotion sickness agents; antiinflammatory agents; antihyperkeratolytic agents; antiperspirants; antipsoriatic agents; antiseborrheic agents; hair conditioners and hair treatment agents; antiaging and antiwrinkle agents; sunblock and sunscreen agents; skin lightening agents; depigmenting agents; vitamins; corticosteroids; tanning agents; hormones; amino acids; dipeptides; tripeptides; oligopeptides; polypeptides; retinoids; topical cardiovascular agents; hydroxyacids, ketoacids and related compounds; phenyl alpha acyloxyalkanoic acids and derivatives thereof; and N-acetyl-aldosamines, N-acetyl amino acids and related N-acetyl compounds.

114. (New) The composition of claim 113, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of aclovate, acyclovir, acetylsalicylic acid, adapalene, albuterol, aluminum acetate, aluminum chloride, aluminum hydroxide, aluminum chlorohydroxide, amantadine, aminacrine, aminobenzoic acid (PABA), γ -aminobutanoic acid, aminocaproic acid, aminosaliclic acid, amitriptyline, anserine, anthralin, ascorbic acid, ascorbyl palimate, atropine, azelaic acid, bacitracin, bemegride, beclomethasone dipropionate, benzocaine, benzophenone, benzoyl peroxide, betamethasone dipropionate, betamethasone valerate, brompheniramine, bupivacaine, butoconazole, calcipotriene, camphor, capsaicin, carbamide peroxide, carnosine, chitosan, chlorhexidine, chloroxylenol, chlorpheniramine, ciclopirox, clemastine, clindamycin, clioquinol, clobetasol propionate, clotrimazole, coal tar, cromolyn, crotamiton, cycloserine, dehydroepiandrosterone, desoximetasone, dexamethasone, diphenhydramine,

doxypin, doxylamine, dyclonine, econazole, erythromycin, estradiol, ethinyl estradiol, fluocinonide, fluocinolone acetonide, 5-fluorouracil, glutathione, griseofulvin, guaifenesin, haloprogin, hexylresorcinol, homocarnosine, homosalate, hydrocortisone, hydrocortisone 21-acetate, hydrocortisone 17-valerate, hydrocortisone 17-butyrate, hydrogen peroxide, hydroquinone, hydroquinone monoether, hydroxyzine, ibuprofen, ichthammol, imiquimod, indomethacin, ketoconazole, ketoprofen, kojic acid, lidocaine, meclizine, meclocycline, menthol, mepivacaine, methyl nicotinate, methyl salicylate, metronidazole, miconazole, minocycline, minoxidil, monobenzene, mupirocin, naftifine, naproxen, neomycin, nystatin, octyl methoxycinnamate, octyl salicylate, ophidine, ornithine, oxybenzone, oxiconazole, oxymetazoline, padimate O, permethrin, pheniramine, phenol, phenylephrine, phenylpropanolamine, piperonyl butoxide, podophyllin, podofilox, povidone iodine, polymyxins, pramoxine, prilocaine, procaine, promethazine propionate, propranolol, pseudoephedrine, pyrethrin, pyrilamine, resorcinol, retinal, 13-cis retinoic acid, retinoic acid, retinol, retinyl acetate, retinyl palmitate, salicylamide, salicylic acid, selenium sulfide, shale tar, sulconazole, sulfur, sulfadiazine, tazarotene, terbinafine, terconazole, tetracaine, tetracycline, tetrahydrozoline, thymol, tioconazole, tolnaftate, triamcinolone diacetate, triamcinolone acetonide, triamcinolone hexacetonide, triclosan, triprolidine, undecylenic acid, urea, vitamin E acetate, wood tar, zinc pyrithione, glycolic acid, lactic acid, methylactic acid, 4-hydroxy-mandelic acid, mandelic acid, gluconolactone, N-acetyl-glucosamine, N-acetyl-proline, phenyl 2-acetoxyethanoic acid and diphenyl 2-acetoxyethanoic acid.

115. (New) The composition of claim 111, further comprising an inorganic or organic alkali, or amphoteric substance.

116. (New) The composition of claim 115, wherein said inorganic alkali is selected from the group consisting of ammonium hydroxide, ammonium phosphate, ammonium carbonate, ammonium bicarbonate, sodium hydroxide, sodium carbonate, sodium bicarbonate, sodium acetate, sodium phosphate, and alkalis formed from potassium, calcium, magnesium, strontium, aluminum, zinc, and lithium.

117. (New) The composition of claim 115, wherein said organic alkali is selected from the group consisting of amines, hydroxylamines, imines, guanidines, amine oxides, alkanolamines, alkoxylated amines, alkylamido alkylamines, organic amines, polyamines, hydroxylamines, amino acid esters, amino acid amides, aminosaccharides, aminoalditols, aminocyclitols, fattyamines, and imidazolines.

118. (New) The composition of claim 115, wherein said organic alkali is selected from the group consisting of diethanolamine, triethanolamine, isopropanolamine, diisopropanolamine, triisopropanolamine, aminobutanol, aminoethyl propanediol, aminomethyl propanol, aminomethyl propanediol, isopropylamine, dimethylaminoethanol, diethylaminoethanol, methylethanolamine, diisopropylamine, dipropylenetriamine, glucamine, N-methylglucamine, morpholine, tromethamine, cocamines, soyamines, oleamines, stearamines, quaterniums, creatinine, glycine ethyl ester, arginine ethyl ester, lysine methyl ester, proline ethyl ester, citrulline benzyl ester, glycinamide, argininamide, prolinamide, lysinamide, glucamine, methylglucamine, glucosamines and glucosylamines, other glycosamines and glycosylamines, aminoinositols, chitosan, stearamidoethyl diethylamine, stearamidopropyl dimethylamine, stearamidoethyl diethanolamine, and quaternary ammonium hydroxide.

119. (New) The composition of claim 115, wherein said amphoteric substance is selected from the group consisting of amino acids, peptides, polypeptides, proteins and related compounds.

120. (New) The composition of claim 115, wherein said amphoteric substance is selected from the group consisting of glycine, arginine, lysine, cysteine, proline, glutamine, histidine, asparagine, tyrosine, ornithine, citrulline, creatine, creatinine, and tryptophan.

121. (New) A method for treating or preventing cosmetic conditions or dermatological disorders, comprising topically applying a composition comprising

(A) a topically acceptable vehicle or base and (B) a therapeutically effective amount of at least one compound selected from the group consisting of isolactobionic acid, maltobionic acid, isomaltobionic acid, cellobionic acid, gentiobionic acid, laminarabionic acid, melibionic acid, nigerobionic acid, rutinobionic acid, sophorobionic acid, and kojibionic acid as isomeric, nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, and straight or branched chain, or cyclic forms thereof.

122. (New) The method of claim 121, wherein said cosmetic conditions or dermatological disorders are selected from the group consisting of disturbed keratinization, defective syntheses of dermal components, and changes associated with aging of skin, nail and hair; and those indications which include dryness or loose of skin, nail and hair; xerosis; ichthyosis; palmar and plantar hyperkeratoses; uneven and rough surface of skin, nail and hair; dandruff; Darier's disease; lichen simplex chronicus; keratoses; acne; pseudofolliculitis barbae; eczema; psoriasis; itchy scalp and skin; pruritus; warts; herpes; age spots; lentigines; melasmas; blemished skin; hyperkeratoses; hyperpigmented skin; abnormal or diminished syntheses of collagen, glycosaminoglycans, proteoglycans and elastin as well as diminished levels of such components in the dermis; stretch marks; skin lines; fine lines; wrinkles; thinning of skin, nail plate and hair; skin thickening due to elastosis of photoaging, loss or reduction of skin, nail and hair resiliency, elasticity and recoilability; lack of skin, nail and hair lubricants and luster; dull and older-looking skin, nail and hair; and fragility and splitting of nail and hair.

123. (New) The method of claim 122, wherein said composition further comprises a cosmetic, pharmaceutical, or other topical agent.

124. (New) The method of claim 123, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of agents that improve or eradicate age spots, keratoses and wrinkles; local analgesics and anesthetics; antiacne agents; antibacterials; antiyeast agents; antifungal agents; antiviral agents; antidandruff agents; antidermatitis agents; antihistamine agents; antipruritic agents;

antiemetics; antmotion sickness agents; antiinflammatory agents;
antihyperkeratolytic agents; antiperspirants; antipsoriatic agents; antiseborrheic
agents; hair conditioners and hair treatment agents; antiaging and antiwrinkle agents;
sunblock and sunscreen agents; skin lightening agents; depigmenting agents;
vitamins; corticosteroids; tanning agents; hormones; amino acids; dipeptides;
tripeptides; oligopeptides; polypeptides; retinoids; topical cardiovascular agents;
hydroxyacids, ketoacids and related compounds; phenyl alpha acyloxyalkanoic acids
and derivatives thereof; and N-acetyl-aldosamines, N-acetyl amino acids and related
N-acetyl compounds.

125. (New) The method of claim 124, wherein said cosmetic, pharmaceutical, or
other topical agent is selected from the group consisting of aclovate, acyclovir,
acetylsalicylic acid, adapalene, albuterol, aluminum acetate, aluminum chloride,
aluminum hydroxide, aluminum chlorohydroxide, amantadine, aminacrine,
aminobenzoic acid (PABA), γ -aminobutanoic acid, aminocaproic acid, aminosalicylic
acid, amitriptyline, anserine, anthralin, ascorbic acid, ascoryl palimate, atropine,
azelaic acid, bacitracin, bemegride, beclomethasone dipropionate, benzocaine,
benzophenone, benzoyl peroxide, betamethasone dipropionate, betamethasone
valerate, brompheniramine, bupivacaine, butoconazole, calcipotriene, camphor,
capsaicin, carbamide peroxide, carnosine, chitosan, chlorhexidine, chloroxylenol,
chlorpheniramine, ciclopirox, clemastine, clindamycin, clioquinol, clobetasol
propionate, clotrimazole, coal tar, cromolyn, crotamiton, cycloserine,
dehydroepiandrosterone, desoximetasone, dexamethasone, diphenhydramine,
doxypin, doxylamine, dyclonine, econazole, erythromycin, estradiol, ethinyl estradiol,
fluocinonide, fluocinolone acetonide, 5-fluorouracil, glutathione, griseofulvin,
guaifenesin, haloprogin, hexylresorcinol, homocarnosine, homosalate, hydrocortisone,
hydrocortisone 21-acetate, hydrocortisone 17-valerate, hydrocortisone 17-butyrate,
hydrogen peroxide, hydroquinone, hydroquinone monoether, hydroxyzine, ibuprofen,
ichthammol, imiquimod, indomethacin, ketoconazole, ketoprofen, kojic acid,
lidocaine, meclizine, meclocycline, menthol, mepivacaine, methyl nicotinate, methyl
salicylate, metronidazole, miconazole, minocycline, minoxidil, monobenzene,
mupirocin, naftifine, naproxen, neomycin, nystatin, octyl methoxycinnamate, octyl

salicylate, ophidine, ornithine, oxybenzone, oxiconazole, oxymetazoline, padimate O, permethrin, pheniramine, phenol, phenylephrine, phenylpropanolamine, piperonyl butoxide, podophyllin, podofilox, povidone iodine, polymyxins, pramoxine, prilocaine, procaine, promethazine propionate, propranolol, pseudoephedrine, pyrethrin, pyrilamine, resorcinol, retinal, 13-cis retinoic acid, retinoic acid, retinol, retinyl acetate, retinyl palmitate, salicylamide, salicylic acid, selenium sulfide, shale tar, sulconazole, sulfur, sulfadiazine, tazarotene, terbinafine, terconazole, tetracaine, tetracycline, tetrahydrozoline, thymol, tioconazole, tolnaftate, triamcinolone diacetate, triamcinolone acetonide, triamcinolone hexacetonide, triclosan, triprolidine, undecylenic acid, urea, vitamin E acetate, wood tar, zinc pyrithione, glycolic acid, lactic acid, methylactic acid, 4-hydroxy-mandelic acid, mandelic acid, gluconolactone, N-acetyl-glucosamine, N-acetyl-proline, phenyl 2-acetoxyethanoic acid and diphenyl 2-acetoxyethanoic acid.

126. (New) The method of claim 122, wherein said composition further comprises an inorganic or organic alkali, or amphoteric substance.

127. (New) The method of claim 126, wherein said inorganic alkali is selected from the group consisting of ammonium hydroxide, ammonium phosphate, ammonium carbonate, ammonium bicarbonate, sodium hydroxide, sodium carbonate, sodium bicarbonate, sodium acetate, sodium phosphate, and alkalis formed from potassium, calcium, magnesium, strontium, aluminum, zinc, and lithium.

128. (New) The method of claim 126, wherein said organic alkali is selected from the group consisting of amines, hydroxylamines, imines, guanidines, amine oxides, alkanolamines, alkoxyated amines, alkylamido alkylamines, organic amines, polyamines, hydroxylamines, amino acid esters, amino acid amides, aminosaccharides, aminoalditols, aminocyclitols, fattyamines, and imidazolines.

129 (New) The method of claim 126, wherein said organic alkali is selected from the group consisting of diethanolamine, triethanolamine, isopropanolamine, diisopropanolamine, triisopropanolamine, aminobutanol, aminoethyl propanediol,

aminomethyl propanol, aminomethyl propanediol, isopropylamine, dimethylaminoethanol, diethylaminoethanol, methylethanolamine, diisopropylamine, dipropylenetriamine, glucamine, N-methylglucamine, morpholine, tromethamine, cocamines, soyamines, oleamines, stearamines, quaterniums, creatinine, glycine ethyl ester, arginine ethyl ester, lysine methyl ester, proline ethyl ester, citrulline benzyl ester, glycinamide, argininamide, prolinamide, lysinamide, glucamine, methylglucamine, glucosamines and glucosylamines, other glycosamines and glycosylamines, aminoinositols, chitosan, stearamidoethyl diethylamine, stearamidopropyl dimethylamine, stearamidoethyl diethanolamine, and quaternary ammonium hydroxide.

130. (New) The method of claim 126, wherein said amphoteric substance is selected from the group consisting of amino acids, peptides, polypeptides, proteins and related compounds.

131. (New) The method of claim 126, wherein said amphoteric substance is selected from the group consisting of glycine, arginine, lysine, cysteine, proline, glutamine, histidine, asparagine, tyrosine, ornithine, citrulline, creatine, creatinine, and tryptophan.

132. (New) A method for general care or treatment or prevention of diseases or conditions of the oral, vaginal or anal mucosa or for treating skin wounds, comprising topically applying a composition comprising (A) a topically acceptable vehicle or base and (B) a therapeutically effective amount of at least one compound selected from the group consisting of
lactobionic acid, isolactobionic acid, maltobionic acid, isomaltobionic acid, cellobionic acid, gentiobionic acid, laminarabionic acid, melibionic acid, nigerobionic acid, rutinobionic acid, sophorobionic acid, and kojibionic acid as isomeric, nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, straight or branched chain, or cyclic form thereof.

133. (New) The method of claim 132, wherein said skin wounds are selected from the group consisting of skin cuts, tears, lacerations, burns, and punctures.

134. (New) The method of claim 132, wherein said composition further comprises a cosmetic, pharmaceutical, or other topical agent.

135. (New) The method of claim 134, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of local analgesics and anesthetics; antibacterials; antiyeast agents; antifungal agents; antiviral agents; antidermatitis agents; antihistamine agents; antipruritic agents; antiinflammatory agents; vitamins; corticosteroids; hormones; retinoids; N-acetyl-aldosamines, N-acetyl-amino acids and related N-acetyl compounds.

136. (New) The method of claim 135, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of benzocaine, clotrimazole, ketoconazole, miconazole, griseofulvin, econazole, metronidazole, hydroxyzine, diphenhydramine, phenylephrine, pramoxine, lidocaine, procaine, mepivacaine, erythromycin, tetracycline, clindamycin, meclizine, minocycline, naproxen, ibuprofen, theophylline, cromolyn, albuterol, retinol, retinyl acetate, retinyl palmitate, retinal, retinoic acid, 13-cis retinoic acid, hydrocortisone, hydrocortisone 21-acetate, hydrocortisone 17-valerate, hydrocortisone 17-butyrate, betamethasone valerate, betamethasone dipropionate, triamcinolone acetonide, fluocinonide, clobetasol, propionate, crotamiton, propranolol, promethazine, salicylic acid, vitamin E, vitamin E acetate, mandelic acid, gluconolactone, N-acetyl-glucosamine, N-acetyl-proline.

137. (New) A method of using lactobionic acid as isomeric, nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, straight or branched chain, or cyclic form thereof, for general care or treatment of skin and nail, and for topical treatment or prevention of cosmetic conditions or dermatological disorders selected from the indications consisting of dryness or looseness of skin, nail and hair; xerosis; ichthyosis; palmar and plantar hyperkeratoses; uneven and rough surface of skin, nail and hair; dandruff; Darier's disease; lichen simplex chronicus; keratoses; acne;

pseudofolliculitis barbae; eczema; psoriasis; pruritus; warts; herpes; age spots; lentigines; melasmas; blemished skin; mottled skin; hyperkeratoses; hyperpigmented skin; stretch marks; thinning of nail plate and hair; fragility and splitting of nail and hair; wound-healing and treatment of skin wounds; general care as well as treatment and prevention of diseases and conditions of oral, gum, vaginal and anal mucosa.

138. (New) The method of claim 137, further comprising a cosmetic, pharmaceutical, or other topical agent selected from the group consisting of local analgesics and anesthetics; antibacterials; antiyeast agents; antifungal agents; antiviral agents; antidandruff agents; antidermatitis agents; antihistamine agents; antipruritic agents; antiemetics; antimotion sickness agents; antiinflammatory agents; antihyperkeratolytic agents; antiperspirants; antipsoriatic agents; antiseborrheic agents; vitamins; corticosteroids; tanning agents; hormones; amino acids; dipeptides; tripeptides; oligopeptides; polypeptides; retinoids; wound healing agents; oral, vaginal and anal care or treatment agents; gum disease treatment or care agents; hydroxyacids, ketoacids and related compounds; phenyl alpha acyloxyalkanoic acids and derivatives thereof; and N-acetyl-aldosamines, N-acetyl amino acids and related N-acetyl compounds.

139. (New) The method of claim 138, wherein said cosmetic, pharmaceutical, or other topical agent is selected from the group consisting of aclovate, acyclovir, adapalene, albuterol, aluminum acetate, aluminum chloride, aluminum hydroxide, aluminum chlorohydroxide, amantadine, aminacrine, aminobenzoic acid (PABA), γ -aminobutanoic acid, aminocaproic acid, aminosalicyclic acid, amitriptyline, anserine, anthralin, ascorbic acid, ascoryl palimate, atropine, azelaic acid, bacitracin, bemegride, beclomethasone dipropionate, benzocaine, betamethasone dipropionate, betamethasone valerate, brompheniramine, bupivacaine, butoconazole, calcipotriene, camphor, capsaicin, carbamide peroxide, carnosine, chitosan, chlorhexidine, chloroxylenol, chlorpheniramine, ciclopirox, clemastine, clindamycin, clioquinol, clobetasol propionate, clotrimazole, coal tar, cromolyn, crotamiton, cycloserine, dehydroepiandrosterone, desoximetasone, dexamethasone, diphenhydramine, doxypin, doxylamine, dyclonine, econazole, erythromycin, estradiol, ethinyl estradiol,

fluocinonide, fluocinolone acetonide, 5-fluorouracil, glutathione, griseofulvin, guaifenesin, haloprogin, hexylresorcinol, homocarnosine, homosalate, hydrocortisone, hydrocortisone 21-acetate, hydrocortisone 17-valerate, hydrocortisone 17-butyrate, hydrogen peroxide, , hydroxyzine, ibuprofen, ichthammol, imiquimod, indomethacin, ketoconazole, ketoprofen, lidocaine, meclizine, meclocycline, menthol, mepivacaine, methyl nicotinate, methyl salicylate, metronidazole, miconazole, minocycline, minoxidil, , mupirocin, naftifine, naproxen, neomycin, nystatin, , ophidine, ornithine, oxiconazole, oxymetazoline, , permethrin, pheniramine, phenol, phenylephrine, phenylpropanolamine, piperonyl butoxide, podophyllin, podofilox, povidone iodine, polymyxins, pramoxine, prilocaine, procaine, promethazine propionate, propranolol, pseudoephedrine, pyrethrin, pyrilamine, resorcinol, retinol, retinyl acetate, retinyl palmitate, salicylamide, selenium sulfide, shale tar, sulconazole, sulfur, sulfadiazine, tazarotene, terbinafine, terconazole, tetracaine, tetracycline, tetrahydrozoline, thymol, tioconazole, tolnaftate, triamcinolone diacetate, triamcinolone acetonide, triamcinolone hexacetonide, triclosan, triprolidine, undecylenic acid, urea, vitamin E acetate, wood tar, zinc pyrithione, glycolic acid, lactic acid, methylactic acid, 4-hydroxy-mandelic acid, mandelic acid, gluconolactone, N-acetyl-glucosamine, N-acetyl-proline, phenyl 2-acetoxyethanoic acid and diphenyl 2-acetoxyethanoic acid.

140. (New) The method of claim 137, wherein the general care or treatment is for prevention and/or treatment against stinging or irritations of skin caused by chemicals, procedures or other means.

141. (New) A method of forming a gel matrix on the skin, hair, nail or mucosa for the purpose of protection and other attributes comprising at least one compound selected from the group consisting of lactobionic acid, isolactobionic acid, maltobionic acid, isomaltobionic acid, cellobionic acid, gentiobionic acid, laminarabionic acid, melibionic acid, nigerobionic acid, rutinobionic acid, sophorobionic acid, and kojibionic acid as isomeric, nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, straight or branched chain, or cyclic form thereof.

142. (New) An antioxidant comprising (A) an acceptable vehicle or base and (B) a therapeutically effective amount of at least one compound selected from the group consisting of lactobionic acid, isolactobionic acid, maltobionic acid, isomaltobionic acid, cellobionic acid, gentiobionic acid, laminarabionic acid, melibionic acid, nigerobionic acid, rutinobionic acid, sophorobionic acid, and kojibionic acid as isomeric, nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, straight or branched chain, or cyclic form thereof.

143. (New) The antioxidant of claim 142, wherein the antioxidant is used for the prevention and/or treatment against damage from radiation, ionizing radiation, free radicals, laser, or other oxidative damages to the skin, hair, and nails.

144. (New) A compound selected from the group consisting of isolactobionic acid, maltobionic acid, isomaltobionic acid, cellobionic acid, gentiobionic acid, laminarabionic acid, melibionic acid, nigerobionic acid, rutinobionic acid, sophorobionic acid, and kojibionic acid as isomeric, nonisomeric, free acid, ester, salt, partial salt, lactone, saturated or unsaturated, and straight or branched chain, or cyclic forms thereof,

145. (New) The method of claim 137, wherein the general care or treatment is for prevention and/or treatment against stinging or irritations of skin caused by chemicals, procedures or other means.

146. (New) A composition comprising maltobionic acid in an acceptable vehicle or base.

147. (New) The composition of claim 146, wherein maltobionic acid is present as free acid, ester, salt, partial salt, lactone, isomeric or nonisomeric, saturated or unsaturated, straight or branched chain, or cyclic forms thereof.

148. (New) The composition of claim 146, further comprising a cosmetic, pharmaceutical, or other topical agent.

149. (New) A composition comprising melibionnic acid in an acceptable vehicle or base.

150. (New) The composition of claim 149, wherein melibionnic acid is present as free acid, ester, salt, partial salt, lactone, isomeric or nonisomeric, saturated or unsaturated, straight or branched chain, or cyclic forms thereof.

151. (New) The composition of claim 150, further comprising a cosmetic, pharmaceutical, or other topical agent.

152. (New) A method of using lactobionnic acid, its free acid, ester, salt, partial salt, lactone, saturated or unsaturated, isomeric or nonisomeric, straight or branched chain, or cyclic form thereof, as skin refinisher; to improve skin pores, flakiness and redness; to make skin soft, smooth, fresh, balanced, visibly clear, even-toned and brighter.

153. (New) A method of using maltobionnic acid, its free acid, ester, salt, partial salt, lactone, saturated or unsaturated, isomeric or nonisomeric, straight or branched chain, or cyclic form thereof, as skin refinisher; to improve skin pores, flakiness and redness; to make skin soft, smooth, fresh, balanced, visibly clear, even-toned and brighter.

154. (New) A method of using lactobionnic acid, its free acid, ester, salt, partial salt, lactone, saturated or unsaturated, isomeric or nonisomeric, straight or branched chain, or cyclic form thereof, as preventive care or treatment for damages caused by laser treatment or procedure, electromagnetic radiation or ionizing radiation such as alpha rays, beta rays, X-rays and gamma rays.

155. (New) A method of using maltobionnic acid, its free acid, ester, salt, partial salt, lactone, saturated or unsaturated, isomeric or nonisomeric, straight or branched chain, or cyclic form thereof, as preventive care or treatment for damages caused by laser

treatment or procedure, electromagnetic radiation or ionizing radiation such as alpha rays, beta rays, X-rays and gamma rays.

156. (New) A topical cosmetic composition comprising lactobionic acid or maltobionic acid, and N-acetyl-glucosamine, present as free acid, ester, salt, partial salt, lactone, saturated or unsaturated, isomeric or nonisomeric, straight or branched chain or cyclic form thereof.

157. (New) A topical cosmetic composition comprising lactobionic acid or maltobionic acid, and polyhydroxy acids selected from the group consisting of ribonolactone, gluconolactone, galactonolactone, glucoheptonolactone, glucuronolactone, galacturonolactone, glucarolactone and galactarolactone, wherein the bionic acids and polyhydroxy acids may be present as free acid, ester, salt, partial salt, lactone, saturated or unsaturated, isomeric or nonisomeric, straight or branched chain or cyclic form thereof.

158. (New) A topical cosmetic composition comprising lactobionic acid or maltobionic acid, and ascorbic acid present as free acid, ester, salt, partial salt, lactone, saturated or unsaturated, isomeric or nonisomeric, straight or branched chain or cyclic form thereof.